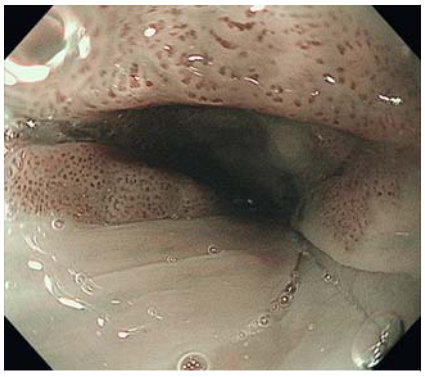
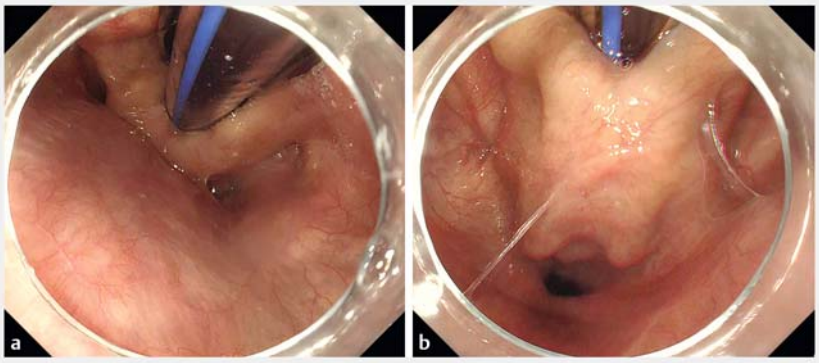
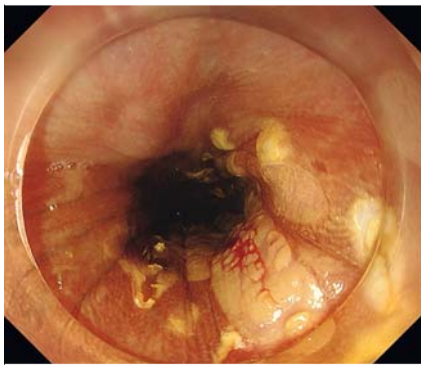
Laryngeal elevation for endoscopic submucosal dissection in cervical superficial esophageal cancer at esophageal entrance



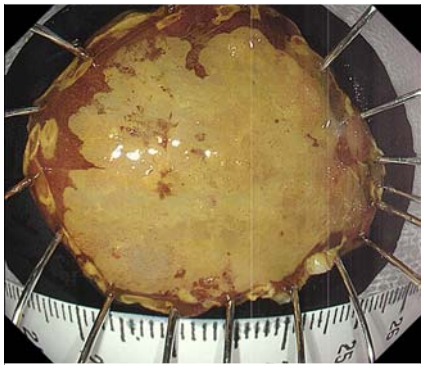
▶ **Fig. 1** Endoscopic image with narrow-band imaging showing a cervical superficial esophageal cancer during endoscopic examination using pethidine hydrochloride. Upper sphincter contraction and the pharyngeal reflex presented a challenge in capturing the entire lesion.



▶ **Fig. 2** **a** By pulling the laryngoscope up behind the intubation tube, laryngeal elevation was achieved. **b** Good visibility of the esophageal entrance resulted.



▶ **Fig. 3** Endoscopic images with iodine staining of the lesion surrounded by marking dots. Laryngeal elevation allowed the entire lesion to be visualized.



▶ **Fig. 4** Macroscopic appearance of the resected specimen.

Endoscopic submucosal dissection (ESD) for cervical superficial esophageal cancer (CSEC) is an effective and safe procedure [1, 2]. However, in CSEC extending to the esophageal entrance, ESD is technically challenging because of upper sphincter muscle tightening, a narrow working space, and the pharyngeal reflex. General anesthesia relaxes the sphincter muscle and aids endoscope maneuverability. Laryngeal elevation using a laryngoscope facilitates a wider working space and is generally used in ESD for pharyngeal superficial cancer [3], but has not previously been reported in ESD for CSEC.

A 59-year-old man diagnosed with a 40-mm, half-circumferential superficial squamous carcinoma at the cervical esophagus, which extended to the esophageal entrance, was referred to our hospital. During endoscopic examination using pethidine hydrochloride [4], sphincter contraction and pharyngeal reflex meant that it was difficult to capture the entire lesion (▶ **Fig. 1**). ESD under general anesthesia with endotracheal intubation and laryngeal elevation was therefore performed. The otolaryngologist elevated the larynx using a Sato's curved laryngoscope (Nagashima Medical Instruments Co., Ltd., Tokyo, Japan), which widened the esophageal entrance, enabled observation of the entire lesion, and improved endoscope maneuverability (▶ **Fig. 2**, ▶ **Fig. 3**). Resection using a Flushknife-BT (1.5 mm, DK2618JB; Fujifilm Medical, Tokyo, Japan) and transparent hood (D-201-11804; Olympus Corporation, Tokyo, Japan) was started from the proximal side of the lesion. Using traction-assisted ESD [5], en bloc resection was achieved within 45 min without adverse events (▶ **Fig. 4**; ▶ **Video 1**). Histopathological analysis of the specimen showed mucosal cancer with negative margins.

In this case, laryngeal elevation using a laryngoscope was employed to widen the esophageal entrance and provide a favorable working space, leading to successful ESD. We have experience of two further cases of CSEC extending to the esophageal entrance in which successful ESD was achieved by laryngeal elevation. In conclusion, laryngeal elevation represents an effective and safe component of ESD for CSEC extending to the esophageal entrance.

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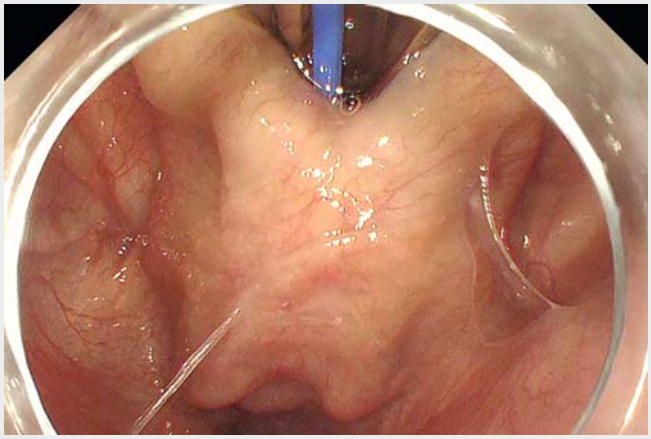

Video 1 Laryngeal elevation provided a favorable working space at the esophageal entrance, which led to successful ESD.

Acknowledgment

We thank Clare Cox, PhD, from Edanz Group, for editing a draft of this manuscript.

Competing interests

The authors declare that they have no conflict of interest.

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Bibliography

Endoscopy 2021; 53: E65–E66
DOI 10.1055/a-1187-0826
ISSN 0013-726X
published online 19.6.2020

Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany